

32063  
E  
consisting of silica, Aluminum Oxide, 92% Alumina, 96% Alumina, Aluminum Nitride, Silicon Nitride, Silicon Carbide, Beryllium Oxide, Boron Nitride and Diamond powder.

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sub 637  
The method of claim 1, wherein the cured composition exhibits a coefficient of linear thermal expansion of about 26 ppm/ °C to less than about 39 ppm/ °C and a glass transition temperature between 100 °C and 160 °C.

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### REMARKS

Claims 13-24 and 27 are pending.

The Office Action rejected Claim 13, alleging lack of definition in the specification of the word "substantially," as recited in Claim 13. The Examiner noted "the phrase 'consists essentially of' could be used to exclude the ethylenically unsaturated precursors disclosed in the prior art." Therefore, Applicants have amended Claim 13 to recite "resin precursor consisting essentially of..."

Claims 13-26 were rejected under the doctrine of obviousness-type double patenting as being unpatentable over claims 1-9 of U.S. Patent No. 6,129,955, in view of Christie *et al.* Applicants respectfully traverse the obviousness-type double patenting rejection on grounds that the Examiner has not shown that the Claims of US Patent 6,129,995, in view of Christie *et al.*, teaches or suggests every feature of a claim of the present patent application..

The Examiner rejected Claims 13-22, 24 and 27-29 under 35 U.S.C. 103(a) as being allegedly unpatentable over Christie *et al.* (5,250,848) in view of Gaku *et al.* (4,554,346).

The Examiner rejected Claims 13-16, 18-22 and 27-29 under 35 U.S.C. 103(a) as being

allegedly unpatentable over Christie *et al.* (5,250,848) in view of McCormick *et al.* (5,744,557).

The Examiner rejected Claim 23 under 35 U.S.C. 103(a) as being allegedly unpatentable over Christie *et al.* (5,250,848) in view of Gaku *et al.* or McCormick *et al.*, as applied to claim 13 above, and further in view of Papathomas *et al.* (5,194,930).

Applicants respectfully traverse the 35 U.S.C. 103(a) rejections in the following discussion.

### 35 U.S.C. 103(a)

The Examiner rejected Claim 13 under 35 U.S.C. 103(a) as allegedly being unpatentable over Christie *et al.*, in view of each of Gaku *et al.* and McCormick *et al.*. Applicants respectfully traverse the Examiner's rejection because Christie *et al.*, in view of each of Gaku *et al.* and McCormick *et al.* do not teach or suggest each and every feature of Applicants' Claim 13. Applicants' Claim 13 states, in part, "[A] method for encapsulating a solder joint between an integrated circuit chip and a substrate, comprising the steps of: forming a composition that includes a photoinitiator, a dispersed filler, and a resin precursor, wherein the resin precursor **consists essentially of** a cyanate ester monomer, a cyanate ester prepolymer, or a mixture of the monomer and prepolymer;" (emphasis added). The Examiner noted use of "the phrase 'consists essentially of' in Claim 13 could be used to exclude the ethylenically unsaturated precursors disclosed in the prior art." See the Office Action, page 2, Response to the Amendment. Therefore, Applicants have amended Claim 13 to recite "resin precursor consisting essentially of..." to put Claim 13 in condition for allowance.



In light of the foregoing discussion, Applicants submit that Claims 13-24 and Claim 27 are in condition for allowance because Christie *et al.*, in view of each of Gaku *et al.* and McCormick *et al.*, as applied to Claim 13, do not teach or suggest Applicants' claimed invention.

### CONCLUSION

In summary, based on the preceding arguments, Applicants respectfully submit that all independent claims and dependent claims meet the acceptance criteria for allowance and therefore request favorable action. If the Examiner believes that anything further would be helpful to place the application in better condition for allowance, Applicants invite the Examiner to contact Applicant's representative at the telephone number listed below.

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**Appendix - Identification of Amended Material**

13. (FOURTH AMENDED) A method for encapsulating a solder joint between an integrated circuit chip and a substrate, comprising the steps of:

forming a composition that includes a photoinitiator, a dispersed filler, and a resin precursor, wherein the resin precursor [substantially] consists essentially of a cyanate ester monomer, a cyanate ester prepolymer, or a mixture of the monomer and prepolymer;

applying an amount of the composition at a thickness sufficient to cover substantially all of the solder joint; and

photocuring the composition to reinforce the solder joint, wherein photocuring the composition forms a resin in the composition from the precursor.

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